United States Department of Energy ★ Railroad Commission of Texas
Chrysler Corporation ★ State Energy Conservation Office ★ Argonne National Laboratory
Natural Resources Canada ★ Southwest Research Institute

Present

1997 PROPANE VEHICLE CHALLENGE

'97 PROPANE VEHICLE CHALLENGE

A student engineering competition dedicated to enhancing propane technology.

The Challenge

TO ADVANCE TECHNOLOGY

Advanced transportation technologies emerge from many different sources—industry, government, and universities, to name a few. The U.S. Department of Energy's Advanced Engineering Competitions foster partnerships among all three, focusing the best of each sector's strengths and resources on an alternative-fuel technology. In these competitions, college engineering students design and convert conventional vehicles to an alternative power source.

These have included natural gas, hybrid electric, methanol, and now propane.

Propane is a clean-burning fuel derived from natural gas or crude oil that already powers an estimated 4 million vehicles worldwide.

The first vehicle challenge to address propane was a spectacular success in advancing technology. Consider the words of Shawn Yates, propane vehicle program coordinator for Chrysler Canada: "I have been involved in propane technology for some 10 years, but the six months I spent working with students on the 1996 Propane Vehicle Challenge revealed more technology than I have seen in the aftermarket in the last 10 years."

The Experience

1996 PROPANE VEHICLE CHALLENGE

The competition

- After months of preparation, 12 teams from universities around the United States and Canada competed in the first Propane Vehicle Challenge from May 30-June 4 in Windsor and Toronto, Ontario.
- Students converted gasoline-powered 1996 Chrysler Voyager minivans to dedicated propane operation.
- Competition goals were to develop advanced propane vehicle technology, achieve ultra-low exhaust emissions, attain a minimum range of 400 km (about 250 miles), and demonstrate performance equal to or better than that of an equivalent gasoline-fueled vehicle.
- One of the evaluation tests included a trek on public highways from Windsor to Toronto, a distance of 390 km (about 250 miles), without refueling.

- Results of the 1996 competition: The University of Windsor achieved ULEV emissions, while Texas A&M University and GMI Engineering & Management Institute achieved LEV. Texas Tech University beat the acceleration of the standard gasolinge-powered minivan and the Illinois Institute of Technology achieved 20 mpg, exceeding the fuel economy of the standard minivan.

'96 FINAL STANDINGS

1st Place	*Texas A&M University*
2nd Place	GMI Engineering and Management Institute (Michigan)
3rd Place	University of Texas at El Paso
4th Place	University of Alberta
5th Place	*(tie)* Texas Tech University and Western Washington University

Best Propane Conversion	University of Texas at Austin
Lowest Emissions	Texas A&M University
Best Fuel Economy	Illinois Institute of Technology
Teamwork	University of Texas at Austin
Simon Vega Sportsmanship Award	University of Alberta

Other competitors were Cedarville College (Ohio), École de technologie supérieure (Quebec), and Villanova University (Pennsylvania). The University of Windsor (Ontario) also participated, but as the host school, was not eligible for prizes.

The Future

1997 PROPANE VEHICLE CHALLENGE

The Competition

- 18 teams from colleges and universities in the United States, Canada and Puerto Rico will compete in the 1997 Propane Vehicle Challenge, to be held May 14-19 in central Texas.
- The Challenge kicked off with a technical workshop Sept. 19-20, 1996, in Grapevine, Texas. More than 100 industry and university representatives discussed the competition's rules and specifications.
- Carroll Shelby, motorsport legend, will serve as the competition grand marshal.
- Veteran teams from the 1996 Challenge will again compete with Chrysler minivans, while new teams will convert Dodge Dakota pickups. As the 1996 overall winner, Texas A&M could select either vehicle, and decided to convert a pickup.
- The Texas Railroad Commission will host the 1997 Challenge, which will begin in San Antonio, caravan to College Station, and end in Austin.

'97 PARTICIPANTS

Schools expected to participate are the following:

Minivan

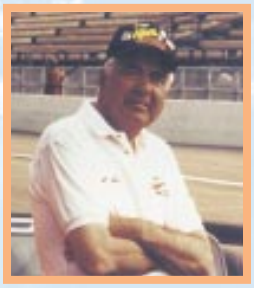
Cedarville College (Ohio)
École de technologie supérieure (Quebec)
GMI Engineering & Management Institute (Michigan)
Illinois Institute of Technology
Texas Tech University
University of Alberta
University of Texas at Austin
University of Texas at El Paso
Villanova University (Pennsylvania)
Western Washington University

Pickup

Texas A&M University
University of California - Riverside
University of Kansas
University of Puerto Rico - Mayagüez
University of Tennessee - Knoxville
University of Waterloo (Ontario)
University of Windsor (Ontario)
Virginia Tech University

1997 Grand Marshall

CARROLL SHELBY



No race car driver and designer has had as powerful an influence on the history of the American sports car as Texan Carroll Shelby. At a time when the United States was unheard of in the field of auto racing, he had a dream that one day the United States would rise above the sports cars of Italy, France, and Great Britain. That dream came true on July 4, 1965, when the American-made Shelby Cobra won the FIA International Manufacturers' Grand Touring Championship. It was a victory over the Ferrari, the Italian-made car company that virtually owned the title for more than a decade.

Shelby's Cobras were some of the fastest production cars ever made. The Cobra 427 sped from zero to 60 miles per hour in four seconds and from zero to 100 miles per hour and back to zero in 13.8 seconds. Shelby also created the Shelby GT 350 and GT 500 Mustangs that are now collector's items.

Later, Shelby worked with Chrysler Corporation to develop "sports cars for the 80's." Between 1986 and 1989, he produced limited numbers of high-performance Dodge Omnis, Chargers, Lancers, Shadows, Dakotas, and the '89 Shadow. Shelby served on the executive committee of Chrysler Corporation's "Team Viper" which developed the exciting limited production car.

Today, Shelby's company is busier than ever. He's completing production of his 427 Cobra run of 100 cars that was begun in 1965 but aborted 43 cars short. The firm is also building a 1990's reproduction of the famous '65 Cobra, as well as working on a new generation Cobra.

SPONSORSHIP

1997 Sponsorship (to date)

- United States Department of Energy, Chrysler Corporation, Railroad Commission of Texas, Texas State Energy Conservation Office, Natural Resources Canada, Southwest Research Institute
- Organized by Argonne National Laboratory
- Supporters: ExproFuels, Conoco, Inc., National Propane Gas Association, Sunoco, Inc., Sleegers Engineering, Inc., Thiokol Corporation, Sea World of Texas, La Quinta Inns, Inc.

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